

**Virginia City Hybrid Energy Center**  
**Response to Data Request**  
**Vivian Thomson, Vice Chair, Virginia Air Pollution Control Board**

**Question (Page No. 5):**

How much less ash would be produced by using a low-ash coal or by washing the coal prior to use? As I understand it, this ash will be stored on-site or reclaimed for other uses.

**Response:**

Dominion estimates that the proposed Curley Hollow Solid Waste Management Facility will receive approximately 2.4 million tons of fossil fuel combustion products (FFPs) per year at the power plant's maximum FFP production rate.

A low ash coal poses problems for the facility as it is currently designed. A low-ash coal (12,500 Btu/lb, 10% ash) limits the amount of biomass that can be consumed to no more than 5% due to the alkali in the wood and requires addition of inert material (sand or gravel) to maintain the bed. If the facility were to consume a 10% ash fuel, the ash generated would be about 300,000 tons annually.

However if a washed coal is being used, waste coal is generated at the coal preparation plant(s). The coal that comes out of a mine is comprised of a 50/50 split of coal and rock. When 200 tons of material comes out of a typical deep mine, 100 tons is coal and 100 tons is coal waste. So, when a 585 MW circulating fluidized bed (CFB) boiler burning low ash fuel (contrary to the purpose of a CFB) requires 2.2 million tons of high quality coal, 2.2 million tons of coal waste is generated at a coal preparation plant. The facility itself would theoretically generate about 300,000 tons of ash. The 2.2 million tons of waste coal plus 300,000 tons of ash exceeds the 2.4 million tons per year of CCB that is expected to be generated at VCHEC.

Waste is either generated prior to combustion and placed in waste coal impoundments or generated in the boiler as a by-product of combustion and placed in the on-site ash disposal area. In addition, the properties of the CCB at the VCHEC will cause the CCB to harden to a concrete-like substance encapsulating the impurities and reducing the leaching potential. The waste coal materials are not impervious and as such are exposed to precipitation.